

Customer No.: 31561  
Application No.: 10/064,536  
Docket NO.: 9741-US-PA

### **REMARKS**

#### **Present Status of the Application**

The Office Action rejected claims 1-5 and 7-20 under 35 U.S.C. 103(a), as being unpatentable over Vuorio et al. (U.S. 6,535,748; hereafter Vuorio) in view of Vaisanen et al. (U.S. 6,560,443; hereafter Vaisanen). The Office Action also rejected claim 6 under 35 U.S.C. 103(a), as being unpatentable over Vuorio in view of Vaisanen and Carlson (U.S. 6,694,151). Applicants deem that claims 1-20 have already clearly defined the invention and been distinguishable over the cited arts. Hence, the reconsideration of those claims is respectfully requested.

#### **Summary of Applicant's Invention**

The Applicant's invention is directed to a wireless communication circuit architecture. Since the transmitting path (as shown in Fig. 2 of the present invention) and the receiving paths (receiving path 1 and receiving path 2) are designed to be almost independent from each other except for the T/R switch 108, one BPF can be saved. Further still, when the RFIC 210 is particularly designed using the zero-IF type, it allows the filter (220) at the next stage can only use the LPF. This further reduces the insertion loss. As a result, the transmission range is effectively improved.

#### **Discussion of Office Action Rejections**

*The Office Action rejected claims 1-5 and 7-20 under 35 U.S.C. 103(a), as being*

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*unpatentable over Vuorio et al. (U.S. 6,535,748; hereafter Vuorio) in view of Vaisanen et al. (U.S. 6,560,443; hereafter Vaisanen).*

Applicants respectfully submit that Vuorio in view of Vaisanen is legally deficient to render claims 1, 10 and 13 unpatentable. Also, Applicants respectfully traverse this rejection and further submit that claims 1, 10 and 13 have already clearly defined the present invention and been distinguishable over the cited arts. As stated, claims 1, 10 and 13 recite, respectively:

Claim 1. A wireless communication circuit architecture, suitable for use in a wireless local area network (WLAN) system operated in a transmitting mode and a receiving mode, the circuit architecture comprising:

a first antenna and a second antenna, wherein the second antenna is also set to be used as a transmitting antenna;

an antenna switch, including a first input terminal and a second input terminal for respectively receiving signals from the first antenna and the second antenna as well as selecting one of the signals as an output;

a first filter, used to receive the output signal from the antenna switch;

.....

Claim 10. A wireless communication circuit architecture, suitable for use in a wireless local area network (WLAN) system operated in a transmitting mode and a receiving mode, the circuit architecture comprising:

a first antenna and a second antenna, wherein the second antenna is also set to be used as a transmitting antenna;

an antenna switch, including a first input terminal and a second input terminal for respectively receiving signals from the first antenna and the second antenna as well as selecting one of the signals as an output;

a band pass filter (BPF), used to receive the output signal from the antenna switch;

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Claim 13. A method for receiving a receiving radio-frequency (RF) signal and transmitting a transmitting RF signal, suitable for use in a wireless local area network (WLAN) system operated in a transmitting mode and a receiving mode, the method comprising:

providing a first antenna and a second antenna, wherein the second antenna is also set to be used as a transmitting antenna during the transmitting mode;

during the receiving mode, performing the steps of:

selecting one of the first antenna and the second antenna to receive the receiving RF signal;

filtering the receiving RF signal by a first filter at a first noise frequency range; and

sending the filtered to a RF integrated circuit (RFIC) unit for processing; and

during the transmitting mode, performing the steps of:

transmitting the transmitting RF signal from the RFIC unit;

amplifying the transmitting RF signal;

filtering the amplified transmitting RF signal by a second filter at a second noise frequency range;

transmitting the amplified transmitting RF signal through the second antenna, without passing through the first filter.

*(Emphasis Added)* Applicants submit that the claim patently defines over the prior art of record, for at least the reason that the prior arts fail to disclose at least these elements emphasized above.

More specifically, Vuorio fails to teach or suggest that the first antenna 2 and the second antenna 30 (as shown in Fig. 5 of the cited art) are integrated with each other. Instead, Vuorio emphasizes that “the two antennae 2 and 30 are typically spaced apart by a distance corresponding to the size of the terminal. Generally, the greater the spacing between the antennae, the greater the benefit” (col. 8, lines 54-58). Apparently, Vuorio teaches away from that the antennae are integrated with each by sharing a portion of the receiving path and using the independent transmit path. Furthermore, Vuorio emphasizes

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that "the signals which are received by the two antennae 2 and 30 have followed different paths and .....the signals from the two antennae 2 and 30 can be combined coherently using maximum ration combining or alternatively, the stronger of the two signals received by the two antennae 2 and 30 may be used with a weaker signal being discarded" (col. 8, lines 59-67). That is, Vuorio never considers to use antenna switch to pre-select one of the received signal from the antennae 2 and 30.

Hence, the skilled artisans would not modify Vuorio's application by referring to Vaisanen's application to obtain a circuit architecture with integrating antennae 2 and 30 by using the antenna switch and the T/R switch since Vuorio obviously discourage this configuration.

Hence, Applicants respectfully submit that Vuorio in view of Vaisanen fails to render claims 1, 10 and 13 unpatentable. Claims 2-9, 11-12 and 14-20, which depend from claims 1, 10 and 13 respectively, are also patentable over Vuorio in view of Vaisanen, at least because of their dependency from an allowable base claim. Applicants respectfully assert that these claims are in condition for allowance. Thus, reconsideration and withdrawal of this rejection are respectfully requested.

*The Office Action also rejected claim 6 under 35 U.S.C. 103(a), as being unpatentable over Vuorio in view of Vaisanen and Carlson (U.S. 6,694,151).*

Since claim 6 are dependent claims which further define the invention recited in claim 1, Applicants respectfully assert that these claims also are in condition for allowance according to the same reasons as discussed above for the rejection 103. Thus,

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reconsideration and withdrawal of this rejection are respectively requested.

For at least the foregoing reasons, Applicant respectfully submits that independent claims 1, 10 and 13 patently define over the prior art references, and should be allowed. For at least the same reasons, dependent claims 2-9, 11-12 and 14-20 patently define over the prior art as well.

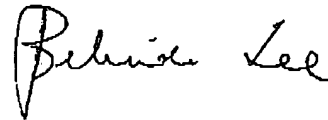
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### CONCLUSION

For at least the foregoing reasons, it is believed that the pending claims 1-20 are in proper condition for allowance. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

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Respectfully submitted,



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